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BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

No. 2

JULY - DECEMBER 1970

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BIBLIOGRAPHY OF SOVIET
LASER DEVELOPMENTS

No. 2, July - December 1970

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Introduction

This bibliography has been compiled by the staff of Informatics Tisco in response to a continuing contractual assignment to monitor current Soviet bloc developments in the quantum electronics field. It is the second of two issues intended to give a comprehensive listing of Soviet publication in laser technology for 1969-1970, and complements the first issue by covering all the non-periodic literature for this interval. This includes over 100 sources comprising institutional transactions, collections of articles, conference proceedings, and monographs dealing with laser developments.

For convenience we have also included in this issue the material from regular periodical sources for July through December, 1970, thus completing the full two-year retroactive coverage through 1970. Beginning with 1971, laser bibliographies will continue to be published on a quarterly basis.

The exploitation philosophy and the organization of entries remain essentially the same as set forth in the first issue. In general the subject categories will vary according to the volume of publication on a particular subject. It is clear, for example, that interest in ruby lasers is dwindling while technology related to chemical and other high-power lasers is getting increasing emphasis, and may warrant a more detailed breakdown in the future.

An indication of the current level of Soviet research effort in lasers is given by the fact that at least two new journals have recently appeared which concentrate on the latest and most sophisticated laser developments in the USSR. The first of these, Kratkiye soobshcheniya po fizike (Brief communications in physics) appeared in 1970, and is a monthly report from the Lebedev Institute in Moscow, where the most significant laser work is being done. The second, Kvantovaya elektronika (Quantum electronics) is an irregular serial which began publication in 1971, and is devoted entirely to laser research of the Lebedev group and others prominent in the field.

To avoid needless repetition, particularly of Sbornik (Sb) and Trudy (Tr) entries, all frequently cited sources have been abbreviated. The full titles are listed alphabetically in Section IV, giving the complete source name and date of issue. In addition, any entry whose source is not on hand at Informatics Tisco includes a parenthesized reference to an abstract of the

entry in the Soviet Referativnyy zhurnal (Abstracts journal), whenever these were found.

Since monographs are considered of less immediate interest, they have been grouped in a separate section. A complete author index is included at the end.

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SOVIET LASER BIBLIOGRAPHY, JULY--DECEMBER 1970

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I. BASIC RESEARCH

A. SOLID STATE LASERS

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a. Ruby

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F. COMPONENTS AND ACCESSORIES

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IV. SOURCE ABBREVIATIONS

AiT	-	Avtomatika i telemekhanika
APP	-	Acta Physica Polonica
DAN ArmSSR	-	Akademiya nauk Armyanskoy SSR. Doklady
DAN BSSR	-	Akademiya nauk Belorusskoy SSR. Doklady
DAN SSSR	-	Akademiya nauk SSSR. Doklady
DAN Uzb	-	Akademiya nauk Uzbekskoy SSR. Doklady
DBAN	-	Bulgarska akademiya na naukite. Doklady
Dokl 1	-	Nauchno-tehnicheskaya konferentsiya po radio- tehnicheskym izmereniyam. Doklady. Tom 2. Novosibirsk, 1969
Dokl 2	-	Nauchno-tehnicheskii seminar. Doklady. Metrologiya v radioelektronike. Tezisy. Moskva, 1970
FAiO	-	Akademiya nauk SSSR. Izvestiya. Fizika atmosfera i okeana
FiKhOM	-	Fizika i khimiya obrabotki materialov
Fizyka diel	-	Fizyka dielektrykov i radiospektroskopija
FTP	-	Fizika i tekhnika poluprovodnikov
FTT	-	Fizika tverdogo tela
FZh	-	Fiziologicheskii zhurnal
GiK	-	Geodeziya i kartografiya
IAN Arm	-	Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika

IAN B	- Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IAN Biol	- Akademiya nauk SSSR. Izvestiya. Seriya biologicheskaya
IAN Est	- Akademiya nauk Estonskoy SSR. Izvestiya. Fizika, matematika
IAN Mold	- Akademiya nauk Moldavskoy SSR. Izvestiya. Seriya fiziko-tehnicheskikh i matematicheskikh nauk
IAN TK	- Akademiya nauk SSSR. Izvestiya. Tekhnicheskaya kibernetika
IAN Turk	- Akademiya nauk Turkmenskoy SSR. Izvestiya. Seriya fiziko-tehnicheskikh, khimicheskikh i geologicheskikh nauk
IAN Uzb	- Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IBAN	- Bulgarska akademiya na naukite. Fizicheski institut. Izvestiya na fizicheskiya institut s ANEB
I-FZh	- Inzhenerno-fizicheskiy zhurnal
IIR	- Izobretatel' i ratsionalizator
IT	- Izmeritel'naya tekhnika
IVUZ Fiz	- Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Geod	- Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka
IVUZ Priboro	- Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr	- Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika

IVUZ Radiofiz	- Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
KhVE	- Khimiya vysokikh energiy
KiK	- Kinetika i kataliz
Kristall	- Kristallografiya
KSpF	- Kratkiye soobshcheniya po fizike
MITOM	- Metallovedeniye i termicheskaya obrabotka materialov
NM	- Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy
NTO SSSR	- Nauchno-tekhnicheskiye obshchestva SSSR
OiS	- Optika i spektroskopiya
OMP	- Optiko-mekhanicheskaya promyshlennost'
Otkr izobr	- Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
OZh	- Oftal'mologicheskiy zhurnal
PF	- Postepy fizyki
PMTF	- Zhurnal prikladnoy mekhaniki i teoreticheskoy fiziki
PSS	- Physica Status Solidi
PTE	- Prihory i tekhnika eksperimenta
Radiotekh	- Radiotekhnika
RiE	- Radiotekhnika i elektronika
RZhF	- Referativnyy zhurnal. Fizika
RZhGeod	- Referativnyy zhurnal. Geodeziya i aerostroyenka

RZh Metrolog	- Referativnyy zhurnal. Metrologiya i izmeritel'naya tekhnika
RZh Radiot	- Referativnyy zhurnal. Radiotekhnika
Sb 1	- Spektroskopiya atomov i molekul. Sbornik. Kiyev, Naukova dumka, 1969
Sb 2	- Kvantovaya elektronika. Sbornik. Vyp. 3. Kiyev, Naukova dumka, 1969
Sb 3	- Fizika elektronno-dyrochnykh perekhodov i poluprovodnikovyykh priborov. Sbornik. Leningrad, Izd-vo nauka, 1969
Sb 4	- Poluprovodnikovyye pribory v tekhnike elektrosvyazi. Sbornik. Moskva, Izd-vo svyaz', 1970
Sb 5	- Arsenid galliya. Sbornik. No. 1. Tomsk, Tomskiy universitet, 1968
Sb 6	- Kvantovaya elektronika. Sbornik. Vyp. 4. Kiyev, Naukova dumka, 1969
Sb 7	- Voprosy fiziki kondensirovannogo sostoyaniya. Sbornik. Kiyev, Naukova dumka, 1969
Sb 8	- Problemy peredachi informatsii lazernym izlucheniym. Sbornik. Kiyev, 1969
Sb 9	- Fizika gazovykh lazerov. Sbornik. Leningrad, Izd-vo Leningradskogo universiteta, 1969
Sb 10	- Elektronnaya tekhnika. Nauchno-tekhnicheskii sbornik. Gazorazryadnyye pribory
Sb 11	- Voprosy teorii atomnykh stolknoveniy. Sbornik. Moskva, Atomizdat, 1970
Sb 12	- Voprosy fiziki nizkotenperaturnoy plazmy. Minsk, Izd-vo nauka i tekhnika, 1970
Sb 13	- Elektronnaya tekhnika. Nauchno-tekhnicheskii sbornik. Elektronika SVCh

- Sb 14 - Radiofizika i rasprostraneniye elektromagnitnykh voln. Sbornik. Moskva, 1970
- Sb 15 - Nelineynyye protsessy v optike. Sbornik. Novosibirsk, Izd-vo nauka, 1970
- Sb 16 - Prikladnaya spektroskopiya. Sbornik. Tom 1. Moskva, Izd-vo nauka, 1969
- Sb 17 - Antenny. Sbornik. Moskva, Izd-vo svyaz'
- Sb 18 - AN UkrSSR. Fiziko-tekhnicheskiy institut nizkikh temperatur. Sbornik nauchnykh trudov
- Sb 19 - Nekotoryye voprosy magnitnoy radiospektroskopii i kvantovoy akustiki. Sbornik. Kazan', 1968
- Sb 20 - Teoreticheskaya i yadernaya fizika. Sbornik. Dnepropetrovsk, 1970
- Sb 21 - Rostovskiy universitet. Sbornik. Seriya yestestvennykh i tochnykh nauk. Nauchno-teoreticheskaya konferentsiya aspirantov, no. 10. Materialy. Rostov, 1970
- Sb 22 - Problemy difraktsii i rasprostraneniya voln. Leningrad. Izd-vo Leningradskogo universiteta
- Sb 23 - Voprosy radioelektroniki. Seriya tekhnika televideniya
- Sb 24 - Vychislitel'naya tekhnika i yeye primeneniye v inzhenernykh i ekonomicheskikh raschetakh. Sbornik. Vladivostok, 1969
- Sb 25 - Mezhdunarodnyy kongress po fotograficheskoy nauke, Moskva, 1970. Sbornik. Khimiko-fotograficheskaya obrabotka. Vneshtorgizdat
- Sb 26 - Impul'snaya fotometriya. Sbornik. Leningrad, Izd-vo mashinostroyeniye, 1969
- Sb 27 - Arsenid galliya. Sbornik. No. 2. Tomsk, Izd-vo Tomskogo universiteta, 1969

- Sb 28 - Elektronnaya tekhnika. Nauchno-tekhnicheskiy sbornik
- Sb 29 - Leningrad. Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya. Informatsionnyye materialy po gidrometeorologicheskim priboram i metodam nablyudeniya. Sbornik
- Sb 30 - Radiotekhnika. Respublikanskiy mezhvedomstvennyy nauchno-tekhnicheskiy sbornik
- Sb 31 - Khar'kovskiy gosudarstvennyy nauchno-issledovatel'skiy institut metrologii. Sbornik. Moskva, Izd-vo standartov, 1969
- Sb 32 - Prikladnaya fotogrammetriya. Leningrad, Izd-vo nauka, 1969
- Sb 33 - Inzhenernaya geodeziya. Mezhdvedomstvennyy respublikanskiy nauchnyy sbornik
- Sb 34 - Nauchno-tekhnicheskoye soveshchaniye po geodezicheskoye marksheyderskym rabotam v stroitel'stve, Moskva, 1969. Sbornik materialy
- Sb 35 - Mir glazami molodogo uchennogo. Fizika, matematika, mekhanika. Sbornik. Moskva, Izd-vo nauka, 1968
- Sb 36 - Poluprovodnikovaya tekhnika i mikroelektronika. Respublikanskiy mezhvedomstvennyy sbornik. No. 4, 1970
- Sb 37 - Dvukhfaznyye potoki i voprosy teploobmena. Sbornik. Moskva, Izd-vo nauka, 1970
- Sb 38 - Teplofizicheskiye svoystva nizkotemperaturnoy plazmy. Moskva, Izd-vo nauka, 1970
- Sb 39 - Monokrystally, tsintillyatory i organicheskiye lyuminofovy. Sbornik. Khar'kov

- Sb 40 - Mezhdunarodnyy kongress po fotograficheskoy nauke, Moskva, 1970. Sbornik. Neserebryanyye materialy i neobychnyye fotograficheskiye protsessy. Vneshtorgizdat, 1970
- Sb 41 - Mezhdunarodnyy kongress po fotograficheskoy nauke, Moskva 1970. Sbornik. Priroda fotograficheskoy chuvstvitel'nostii. Vneshtorgizdat, 1970
- Sb 42 - AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Kommissiya po khimii fotograficheskikh protsessov. Uspekhi nauchnoy fotografii. Tom 15. Leningrad, Izd-vo nauka, 1970
- TiEKh - Teoreticheskaya i eksperimental'naya khimiya
- TKIT - Tekhnika kino i televideniya
- Tr 1 - Mezhdunarodnaya konferentsiya po fiziki poluprovodnikov, no. 9. Moskva, 23-29 July 1968. Trudy. Vol. 1. Leningrad, Izd-vo nauka, 1969
- Tr 2 - Moskovskiy khimicheskoye-tekhnologicheskoye institut imeni D. I. Mendeleyeva. Trudy. No. 2, 1969
- Tr 3 - AN KazSSR. Astrofizicheskoye institut. Trudy
- Tr 4 - Vsesoyuznyy seminar po voprosam prirody ushireniya spektral'nykh liniy izlucheniya kondensirovannykh aktivnykh sred OKG. 1968. Trudy. Kiyev, 1969
- Tr 5 - Khar'kovskiy nauchno-issledovatel'skiy institut metrologii. Trudy. Moskva, 1969
- Tr 6 - Krasnodarskiy gosudarstvenniy pedagogicheskoye institut. Nauchnyye trudy
- Tr 7 - Kazanskiy aviatsionnyy institut. Trudy
- Tr 8 - Dnepropetrovskiy institut inzhenerov zheleznodorozhnogo transporta. Trudy

- Tr 9 - Vitebskiy tekhnologicheskiy institut legkoy promyshlennosti. Trudy
- Tr 10 - Leningradskiy institut tochnoy mekhaniki i optiki. Trudy
- Tr 11 - Trudy metrologicheskikh institutov SSSR.
- Tr 12 - Novosibirskiy pedagogicheskiy institut. Nauchnyye trudy
- Tr 13 - AN SSSR. Fizicheskiy institut imeni P. N. Lebedeva. Trudy. Moskva
- Tr 14 - Respublikanskaya konferentsiya po aerogidromekhanike, teploobmenu, i massoobmenu, no. 1. Trudy. Kiyev, Kiyevskiy universitet, 1969
- Tr 15 - Ministerstvo svyazy SSSR. Trudy uchebnykh institutov svyazy. Leningrad
- Tr 16 - Moskovskiy institut radiotekhniki, elektroniki i avtomatiki. Trudy. Radiotekhnika
- Tr 17 - AN SSSR. Soveshchaniya po atmosfernoy optike rabochey gruppy po opticheskoy nestabil'nosti zemnoy atmosfery Astrosoveta AN SSSR. Uzhgorod. 8-10 Oct 1968. Trudy. Atmosfernaya optika. Moskva, Izd-vo nauka, 1970
- Tr 18 - Leningradskiy elektrotekhnicheskiy institut svyazi. Nauchno-tekhnicheskaya konferentsiya. Materialy
- Tr 19 - Irkutskiy politekhnicheskiy universitet. Trudy
- Tr 20 - Tsentral'naya aerologicheskaya observatoriya. Trudy
- Tr 21 - AN SSSR. Fizicheskiy institut imeni P. N. Lebedeva. Trudy. Moskva. No. 52, 1970
- Tr 22 - Leningradskiy politekhnicheskiy institut. Trudy
- Tr 23 - Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya. Trudy. Leningrad. No. 22, 1969

TVT	-	Teplofizika vysokikh temperatur
UFN	-	Uspekhi fizicheskikh nauk
UFZh	-	Ukrainskiy fizicheskiy zhurnal
UNF	-	Uspekhi nauchnoy fotografii
VAN	-	Akademiya nauk SSSR. Vestnik
VBU	-	Belorusskiy universitet. Vestnik
VLU	-	Leningradskiy universitet. Vestnik. Fizika, khimiya
VMU	-	Moskovskiy universitet. Vestnik. Seriya fizika, astronomiya
Zap 1	-	Moskovskiy gosudarstvennyy pedagogicheskiy institut. Uchenyye zapiski
Zap 2	-	AN SSSR. Matematicheskiy institut. Leningrad- skoye otdeleniye. Zapiski nauchnykh seminarov
ZhETF	-	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF PVR	-	Pis'ma v Zhurnal eksperimental'noy i teoreti- cheskoy fiziki
Zh NiP FiK	-	Zhurnal nauchnoy i prikladnoy fotografii i kino-fotografii
ZhPK	-	Zhurnal prikladnoy khimii
ZhPS	-	Zhurnal prikladnoy spektroskopii
ZhTF	-	Zhurnal tekhnicheskoy fiziki
ZhVMMF	-	Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki

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